WHAT IS CLAIMED IS:

1. An image production apparatus, comprising:

an optical modulation device for modulating light;

a driving circuit for driving said optical modulation device in response to an input signal;

an initial driving signal production circuit for producing an initial driving signal for deriving said optical modulation device in response to the input signal; and

correction means for determining, from a target light intensity of modulated light to be emitted from said optical modulation device in response to the initial driving signal and an intensity of the modulated light emitted from said optical modulation device in response to the driving signal, a value of the driving signal for said optical modulation device corresponding to the target light intensity and inputting the determined driving signal to said driving circuit.

2. An image display apparatus, comprising:

a light source;

a plurality of optical modulation devices each including a plurality of fixed electrodes and a plurality of displaceable electrodes positioned adjacent said fixed electrodes and individually displaced or deformed in

response to a driving signal applied thereto to form offsets from said fixed electrodes so that illumination light from said light source incoming to one of faces of said fixed and displaceable electrodes is modulated in accordance with the offsets such that the modulated lights from said optical modulation devices are arrayed linearly to form a one-dimensional image;

image display means for being illuminated with the modulated lights to form an image;

a driving circuit for applying the driving signals to the electrodes of said optical modulation devices in response to an input signal thereto;

an initial driving signal production circuit for producing an initial driving signal for driving said optical modulation devices from the input signal; and

correction means interposed between said initial driving signal production circuit and said driving circuit for determining, from a target light intensity for the modulated lights to be emitted from said optical modulation devices in response to the initial driving signal and intensities of the modulated lights emitted from said optical modulation devices in response to the driving signals, values of the driving signals for said optical modulation devices corresponding to the target

light intensity and inputting the driving signals of the determined values to said driving circuit.

3. An image display apparatus according to claim 2, further comprising measurement means removably placed at a position at which said measurement means can measure the modulated lights emitted from said optical modulation devices for measuring the intensities of the modulated lights emitted from said optical modulation devices and determining a modulation characteristic of each of said optical modulation devices representative of a relationship between the driving signal applied to the optical modulation device and the intensity of the modulated light emitted from the optical modulation device in response to the driving signal.

4. An image display apparatus according to claim 2, further comprising measurement means removably placed at a position at which said measurement means can measure the modulated lights emitted from said optical modulation devices for measuring the intensities of the modulated lights emitted from said optical modulation devices and determining a modulation characteristic of each of said optical modulation devices representative of a relationship between the driving signal applied to the optical modulation device and the intensity of the

modulated light emitted from the optical modulation device in response to the driving signal,

wherein said correction means determines, from the determined modulation characteristic of each of said optical modulation devices, the value of the driving signal for the optical modulation device corresponding to the target light intensity emitted in response to the initial driving signal.

5. An image display apparatus according to claim 4, wherein said correction means determines a target modulation characteristic representative of a relationship between the initial driving signal and the target light intensity of the modulated light emitted in response to the initial driving signal to set the target light intensity for the driving signals.

6. An image display apparatus according to claim 2, wherein said light source includes single-color light sources for red, green and blue, and

said optical modulation devices include a first optical modulation element array, a second optical modulation element array and a third optical modulation element array which individually include a plurality of optical modulation elements for modulating single-color illumination lights emitted from said single-color light

sources.

7. An image display apparatus according to claim 6, wherein said measurement means determines modulation characteristics of said optical modulation devices from the intensities of the modulated lights emitted from said optical modulation element arrays including the optical modulation elements for modulating the single-color illumination lights illuminated from said single-color light sources, and

said correction means determines, from the modulation characteristics of the optical modulation elements which form said optical modulation element arrays, the values of the driving signals corresponding to the target light intensities for the optical modulation elements, which form said optical modulation element arrays, set in response to the initial driving signal.

8. An image display apparatus according to claim 7, wherein said correction means determines the target modulation characteristics for the optical modulation elements, which form said optical modulation element arrays, to set the target light intensities.

9. An image display apparatus according to claim 7, wherein said light source includes first illumination

means for illuminating, for each of said optical modulation element arrays, the single-color illumination lights simultaneously on the optical modulation elements which form the optical modulation element array, and

said correction means varies a voltage value within a first variation range to produce a first test signal and applies the first test signal to said optical modulation devices through said driving circuit.

10. An image display apparatus according to claim 7, wherein said measurement means measures the intensities of the modulated lights emitted in response to the voltage value of the first test signal from the optical modulation elements, which form each of said optical modulation element arrays, illuminated by said first illumination means for illuminating, for each of said optical modulation element arrays, the single-color illumination lights to determine the modulation characteristics of said optical modulation devices, and

said correction means uses the determined modulation characteristics of said optical modulation devices to determine an illumination profile for each color representative of a relationship between the light intensities of the modulated lights emitted from the optical modulation elements which form said optical

modulation element arrays and the positions of the optical modulation elements.

11. An image display apparatus according to claim 10, wherein said correction means determines target modulation characteristics for the optical modulation elements which form said optical modulation element arrays from the illumination profiles for the individual colors.

12. An image display apparatus according to claim 11, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the illumination profiles of the individual colors, and

determines a minimum value of the white luminance distributions of the optical modulation element arrays as a target maximum luminance of the white to be realized by said optical modulation elements which form said optical modulation element arrays, and

determines the target modulation characteristics of said optical modulation devices from a predetermined modulation characteristic function and the target maximum luminance of the white.

13. An image display apparatus according to claim 11, wherein said correction means divides the optical

modulation elements which form each of said optical modulation element arrays into a plurality of groups depending upon positions of said optical modulation elements, and

individually determines the target modulation characteristics of the optical modulation elements of the groups from the illumination profiles for the individual colors.

14. An image display apparatus according to claim 13, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the illumination profiles of the individual colors, and

determines a minimum value of the white luminance distributions of the optical modulation elements of the groups as a target maximum luminance of the white of the optical modulation elements, and

determines the target modulation characteristics of the optical modulation elements of each of the optical modulation element groups from a predetermined modulation characteristic function and the target maximum luminance of the white.

15. An image display apparatus according to claim 7, wherein said light source includes first illumination

means for illuminating, for each of the optical modulation element arrays, the single-color illumination lights simultaneously upon the optical modulation elements which form the optical modulation element array, and

second illumination means for illuminating, for each of said optical modulation devices, the single-color illumination lights upon the optical modulation elements which form the optical modulation element array, and

said correction means determines the modulation characteristics of the optical modulation elements which form the optical modulation element array and illumination profiles of said optical modulation element arrays separately from each other using said first and second illumination means.

16. An image display apparatus according to claim 15, wherein, when said second illumination means illuminates the optical modulation elements of the optical modulation element arrays, said correction means produces a first test signal whose voltage value varies within a first variation range and applies the first test signal to said optical modulation devices through said driving circuit, and

said measurement means measures the intensities of

the modulated lights emitted in response to the voltage value of the first test signal by any of said optical modulation devices illuminated by said second illumination means to determine the modulation characteristics of said optical modulation devices.

17. An image display apparatus according to claim 15, wherein, when said first illumination means illuminates the optical modulation elements which form the optical modulation element arrays, said correction means produces a second test signal whose voltage value varies within a second variation range and applies the second test signal to said optical modulation devices through said driving circuit.

18. An image display apparatus according to claim 17, wherein said measurement means measures the intensities of the modulated lights emitted from the optical modulation elements of the optical modulation element arrays illuminated by said first illumination means when the optical modulation elements of the optical modulation element arrays are deformed or displaced in response to the voltage value of the second test signal, and

said correction means determines illumination profiles of the optical modulation elements which form

the optical modulation element arrays.

19. An image display apparatus according to claim 18, wherein said correction means determines target modulation characteristics for the optical modulation elements which form said optical modulation element arrays from the modulation characteristics of said optical modulation devices determined individually and the illumination profiles for the individual colors.

20. An image display apparatus according to claim 19, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the modulation characteristics of said optical modulation devices and the illumination profiles of the individual colors, and

determines a minimum value of white luminance distributions of the optical modulation element arrays as a target maximum luminance of the white to be realized by said optical modulation elements which form said optical modulation element arrays, and

determines the target modulation characteristics of said optical modulation devices from a predetermined modulation characteristic function and the target maximum luminance of the white.

21. An image display apparatus according to claim 19, wherein said correction means divides the optical modulation elements which form each of said optical modulation element arrays into a plurality of groups depending upon positions of said optical modulation elements, and

individually determines the target modulation characteristics of the optical modulation elements of the groups from the modulation characteristics of said optical modulation devices and the illumination profiles for the individual colors.

22. An image display apparatus according to claim 21, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the modulation characteristics of said optical modulation devices and the illumination profiles of the individual colors, and

determines a minimum value of the white luminance distributions of the optical modulation elements of the groups as a target maximum luminance of white to be realized by the optical modulation elements, and

determines the target modulation characteristics of the optical modulation elements of each of the optical

modulation element groups from a predetermined modulation characteristic function and the target maximum luminance of the white.

23. An image display apparatus according to claim 6, wherein the illumination light emitted from said red light source is emitted in a direction perpendicular to that of the illumination light emitted from said green light source and that of the illumination light emitted from said blue light source.

24. An image display apparatus according to claim 6, further comprising illumination optical systems for individually changing shapes of cross sections of the single-color illumination lights from said single-color light sources into linear shapes and illuminating the single-color illumination lights of the linear cross sections individually upon said first, second and third optical modulation element arrays.

25. An image display apparatus according to claim 24, wherein each of said illumination optical systems includes:

first shaping means for shaping the cross section of a corresponding one of the illumination lights;

a first converging lens provided rearward of said first shaping means for converging the illumination light

shaped by said first shaping means; and

a first deflecting mirror for deflecting the illumination light converged by said first converging lens to a corresponding one of said optical modulation element arrays.

26. An image display apparatus according to claim 6, further comprising color synthesis means for synthesizing the red modulated light modulated by the optical modulation elements of said first optical modulation element array, the green modulated light modulated by the optical modulation elements of said second optical modulation element array and the blue modulated light modulated by the optical modulation elements of said third optical modulation element array.

27. An image display apparatus according to claim 26, wherein said color synthesis means includes:

a first color synthesis filter for synthesizing the red modulated light modulated by the optical modulation elements of said first optical modulation element array and the green modulated light modulated by the optical modulation elements of said second optical modulation element array, and

a second color synthesis filter for synthesizing the blue modulated light modulated by the optical

modulation elements of said third optical modulation element array and the light emitted from said first color synthesis filter.

28. An image display apparatus according to claim 6, further comprising display light separation means for separating the modulated lights modulated by said optical modulation devices into display light to be used to display a one-dimensional image and non-display light not to be used to display an image.

29. An image display apparatus according to claim 28, wherein the optical modulation devices diffract the illumination lights from an illumination optical system and emit modulated lights including diffracted lights of a plurality of order numbers, and

said display light separation means separates ±first order diffracted lights as the display light from within the modulated lights.

30. An image display apparatus according to claim 28, wherein said display light separation means includes:

a concave reflecting mirror for reflecting the modulated lights including the diffracted lights of the plurality of order numbers; and

a convex reflecting mirror disposed in an opposing relationship to said concave reflecting mirror and having

an opening or openings formed therein through which the non-display lights from among the diffracted lights reflected from said concave reflecting mirror pass so that said convex reflecting mirror reflects the display lights from among the diffracted lights reflected from said concave reflecting mirror back to said concave reflecting mirror.

31. An image display apparatus according to claim 28, further comprising:

second shaping means for changing cross sections of the display lights separated by said display light separation means into linear cross sections; and

a second deflecting mirror for deflecting the display light separated by said display light separation means toward said second shaping means.

32. An image display apparatus according to claim 7, further comprising:

second shaping means disposed forward of said measurement means, which measures the intensities of the modulated lights, for changing cross sections of the display lights into linear cross sections; and wherein

said measurement means includes:

a light measuring instrument for measuring the modulated lights from said optical modulation devices and

producing electric signals corresponding to intensities of the modulated lights from the optical modulation devices;

a third deflecting mirror disposed on an optical axis for deflecting the modulated lights from each of said optical modulation devices toward said light measuring instrument; and

a second converging lens interposed between said light measuring instrument and said third deflecting mirror for converging the lights reflected by said third deflecting mirror.

33. An image display apparatus according to claim 7, further comprising:

scanning means for being rotated in response to the input signal to scan the display lights on said image display means to form a two-dimensional image on said image display means; and

a projection optical system for projecting the display lights emitted from said second shaping means, which changes the cross sections of the display lights into linear cross sections, onto said scanning means.

34. An image display method for scanning modulated lights emitted from a plurality of optical modulation devices, each of which includes a plurality of fixed

electrodes and a plurality of displaceable electrodes positioned adjacent said fixed electrodes and individually displaced or deformed in response to a driving signal applied thereto to form offsets from said fixed electrodes so that illumination light from a light source incoming to one of faces of said fixed and displaceable electrodes is modulated in accordance with the offsets such that the modulated lights from said optical modulation devices are arrayed linearly to form a one-dimensional image, on a plane to display a two-dimensional image, comprising:

a driving signal correction step of determining, before an image is displayed, from a target light intensity of the modulated lights emitted from said optical modulation devices in response to an initial driving signal produced from an input signal and intensities of the modulated lights emitted from said optical modulation devices in response to the driving signals, values of the driving signals for said optical modulation devices corresponding to the target light intensity; and

a step of applying, when an image is to be displayed, the driving signals of the determined values to said optical modulation devices to drive said optical

modulation elements.

35. An image display method according to claim 34, wherein the driving signal correction step includes:

a first step of measuring the modulated lights from said optical modulation devices to determined modulation characteristics of said optical modulation devices; and

a second step of determining, from the determined modulation characteristic of each of said optical modulation devices, the value of the driving signal for the optical modulation device corresponding to the target light intensity emitted in response to the initial driving signal.

36. An image display method according to claim 34, wherein said light source includes single-color light sources for red, green and blue, and

said optical modulation devices include a first optical modulation element array, a second optical modulation element array and a third optical modulation element array which individually include a plurality of optical modulation elements for modulating single-color illumination lights emitted from said red, green and blue single-color light sources.

37. An image display method according to claim 35, wherein the first step includes a step of modulating the

single-color illumination lights illuminated from said single-color light sources and determining the modulation characteristics of said optical modulation devices in a plurality of optical modulation element arrays in each of which a plurality of optical modulation elements are arrayed, and

the second step includes a step of determining, from the determined modulation characteristics of said optical modulation devices for the individual colors, the values of the driving signals corresponding to the target light intensities for the modulated lights emitted from the optical modulation elements which form said optical modulation element arrays, in response to the initial driving signal.

38. An image display method according to claim 37, wherein the second step includes a step of determining the target modulation characteristics for the optical modulation elements, which form said optical modulation element arrays, to set the target light intensities.

39. An image display method according to claim 37, wherein, at the first step, said single-color light sources illuminate the single-color illumination lights simultaneously on the optical modulation elements which form said optical modulation element arrays, and the

modulation characteristics of the optical modulation elements which form said optical modulation element arrays are determined, and

at the second step, an illumination profile for each color representative of a relationship between the light intensities of the modulated lights emitted from the optical modulation elements which form said optical modulation element arrays and the positions of the optical modulation elements is determined from the determined modulation characteristics of the optical modulation elements.

40. An image display method according to claim 39, wherein the first step includes a step of producing a first test signal whose voltage value varies within a first range and applying the first test signal to said optical modulation devices, and

a step of measuring the intensities of the modulated lights from said optical modulation devices in response to the voltage value of the first test signal.

41. An image display method according to claim 39, wherein the second step includes a step of determining target modulation characteristics for the optical modulation elements of said optical modulation element arrays from the illumination profiles for the individual

colors.

42. An image display method according to claim 41, wherein the second step includes the steps of:

determining a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the illumination profiles of the individual colors;

determining a minimum value of the white luminance distributions of the optical modulation element arrays as a target maximum luminance of the white to be realized by said optical modulation elements which form said optical modulation element arrays; and

determining the target modulation characteristics of said optical modulation devices from a predetermined modulation characteristic function and the target maximum luminance of the white.

43. An image display method according to claim 41, wherein the second step includes the steps of:

dividing the optical modulation elements which form each of said optical modulation element arrays into a plurality of groups depending upon positions of said optical modulation elements; and

individually determining the target modulation characteristics of the optical modulation elements of the

groups from the illumination profiles for the individual colors.

44. An image display method according to claim 43, wherein the second step includes the steps of:

determining a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the illumination profiles of the individual colors; and

determining a minimum value of the white luminance distributions of the optical modulation elements of the groups as a target maximum luminance of the white of the optical modulation elements and determining the target modulation characteristics of the optical modulation elements of each of the optical modulation element groups from a predetermined modulation characteristic function and the target maximum luminance of the white.

45. An image display method according to claim 37, wherein the first step includes a third step of illuminating, before an image is displayed, for each of said optical modulation devices, the single-color illumination lights from said single-color light sources upon the optical modulation elements which form the optical modulation element array and measuring the modulated lights emitted from said optical modulation

elements to determine the modulation characteristics of the optical modulation elements.

46. An image display method according to claim 45, wherein the third step includes the steps of:

applying a first test signal whose voltage value varies within a first variation range to said optical modulation devices; and

measuring the intensities of the modulated lights emitted from said optical modulation devices in response to the voltage value of the first test signal to determine the modulation characteristics of said optical modulation devices.

47. An image display method according to claim 37, wherein the first step includes a fourth step of illuminating, when an image is to be displayed, the illumination lights from said single-color light sources for each of said optical modulation element arrays simultaneously upon the optical modulation elements which form the optical modulation element array to determine illumination profiles of the optical modulation elements.

48. An image display method according to claim 47, wherein the fourth step includes the steps of:

producing a second test signal whose voltage value varies within a second variation range and applying the

second test signal to said optical modulation devices; and

measuring the amounts of the modulated lights emitted from said optical modulation devices in response to the voltage value of the second test signal and determining illumination profiles for the individual colors.

49. An image display method according to claim 39, wherein the second step includes a step of determining target modulation characteristics for the optical modulation elements of said optical modulation element arrays from the modulation characteristics of said optical modulation devices and the illumination profiles for the individual colors.

50. An image display method according to claim 49, wherein the second step includes the steps of:

determining a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the modulation characteristics of said optical modulation devices and the illumination profiles of the individual colors;

determining a minimum value of white luminance distributions of the optical modulation element arrays as a target maximum luminance of the white to be realized by

said optical modulation elements which form said optical modulation element arrays; and

determining the target modulation characteristics of said optical modulation devices from a predetermined modulation characteristic function and the target maximum luminance of the white.

51. An image display method according to claim 49, wherein the second step includes the steps of:

dividing the optical modulation elements of each of said optical modulation element arrays into a plurality of groups depending upon positions of said optical modulation elements; and

individually determining the target modulation characteristics of the optical modulation elements of the groups from the modulation characteristics of said optical modulation devices and the illumination profiles for the individual colors.

52. An image display method according to claim 51, wherein the second step includes the steps of:

determining a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the modulation characteristics of said optical modulation devices and the illumination profiles of the individual colors; and

determining a minimum value of the white luminance distributions of the optical modulation elements of the groups as a target maximum luminance of white to be realized by the optical modulation elements and determining the target modulation characteristics of the optical modulation elements of each of the optical modulation element groups using a predetermined modulation characteristic function and the target maximum luminance of the white.

53. An optical modulation device adjustment apparatus, comprising:

a light source;

a plurality of optical modulation devices each including a plurality of fixed electrodes and a plurality of displaceable electrodes positioned adjacent said fixed electrodes and individually displaced or deformed in response to a driving signal applied thereto to form offsets from said fixed electrodes so that illumination light from said light source incoming to one of faces of said fixed and displaceable electrodes is modulated in accordance with the offsets such that the modulated lights from said optical modulation devices are arrayed linearly to form a one-dimensional image;

a driving circuit for applying the driving signals

to the electrodes of said optical modulation devices in response to an input signal thereto;

an initial driving signal production circuit for producing an initial driving signal for driving said optical modulation devices from the input signal;

measurement means removably placed at a position at which said measurement means can measure the modulated lights emitted from said optical modulation devices for measuring the intensities of the modulated lights emitted from said optical modulation devices and determining a modulation characteristic of each of said optical modulation devices representative of a relationship between the driving signal applied to the optical modulation device and the intensity of the modulated light emitted from the optical modulation device; and

correction means interposed between said initial driving signal production circuit and said driving circuit for determining, from the measured modulation characteristics of said optical modulation devices and a target light intensity for the modulated lights to be emitted from said optical modulation devices in response to the initial driving signal, values of the driving signals for said optical modulation devices corresponding to the target light intensity and inputting the driving

signals of the determined values to said driving circuit.

54. An optical modulation device adjustment apparatus according to claim 53, wherein said correction means determines a target modulation characteristic representative of a relationship between the initial driving signal and the target light intensity of the modulated light emitted from any of said optical modulation devices in response to the initial driving signal to set the target light intensity.

55. An optical modulation device adjustment apparatus according to claim 53, wherein said measurement means includes a light measuring instrument for measuring the intensities of the modulated lights from said optical modulation devices and producing electric signals corresponding to the measured light intensities.

56. An optical modulation device adjustment apparatus according to claim 55, wherein said measurement means further includes a deflecting mirror for deflecting the modulated lights from each of said optical modulation devices toward said light measuring instrument.

57. An optical modulation device adjustment apparatus according to claim 53, wherein said light source includes single-color light sources for red, green and blue, and

said optical modulation devices include a first optical modulation element array, a second optical modulation element array and a third optical modulation element array which individually include a plurality of optical modulation elements arrayed therein for modulating single-color illumination lights emitted from said red, green and blue single-color light sources.

58. An optical modulation device adjustment apparatus according to claim 57, wherein said measurement means determines modulation characteristics of the modulated lights of said optical modulation devices of a plurality of optical modulation element arrays in which a plurality of optical modulation elements are arrayed and modulate single-color illumination lights from said single-color light sources, and

ssaid correction means determines, from the determined modulation characteristics, the values of the driving signal corresponding to the target light intensities of the modulated lights emitted from the optical modulation elements, which form said optical modulation element arrays, in response to the initial driving signal.

59. An optical modulation device adjustment apparatus according to claim 58, wherein said correction

means determines the target modulation characteristics for the optical modulation elements, which form said optical modulation element arrays, to set the target light intensities.

60. An optical modulation device adjustment apparatus according to claim 58, wherein said light source includes first illumination means for illuminating, for each of said optical modulation element arrays, the single-color illumination lights simultaneously on the optical modulation elements which form the optical modulation element array, and

said correction means produces a first test signal whose voltage value varies within a first variation range and applies the first test signal to said optical modulation devices through said driving circuit.

61. An optical modulation device adjustment apparatus according to claim 58, wherein said measurement means measures the intensities of the modulated lights emitted in response to the voltage value of the first test signal from the optical modulation elements illuminated by said first illumination means, which illuminates, for each of said optical modulation element arrays, the single-color illumination lights simultaneously upon the optical modulation elements, to

determine the modulation characteristics of said optical modulation devices, and

said correction means uses the determined modulation characteristics of said optical modulation devices to determine an illumination profile for each color representative of a relationship between the light intensities of the modulated lights emitted from the optical modulation elements which form said optical modulation element arrays and the positions of the optical modulation elements.

62. An optical modulation device adjustment apparatus according to claim 61, wherein said correction means determines target modulation characteristics for the optical modulation elements which form said optical modulation element arrays from the illumination profiles for the individual colors.

63. An optical modulation device adjustment apparatus according to claim 62, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the illumination profiles of the individual colors, and

determines a minimum value of the white luminance distributions of the optical modulation element arrays as

a target maximum luminance of the white to be realized by said optical modulation elements which form said optical modulation element arrays, and

determines the target modulation characteristics of said optical modulation devices using a predetermined modulation characteristic function and the target maximum luminance of the white.

64. An optical modulation device adjustment apparatus according to claim 62, wherein said correction means divides the optical modulation elements which form each of said optical modulation element arrays into a plurality of groups depending upon positions of said optical modulation elements, and

individually determines the target modulation characteristics of the optical modulation elements of the groups from the illumination profiles for the individual colors.

65. An optical modulation device adjustment apparatus according to claim 64, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the illumination profiles of the individual colors, and

determines a minimum value of the white luminance

distributions of the optical modulation elements of the groups as a target maximum luminance of the white of the optical modulation elements, and

determines the target modulation characteristics of the optical modulation elements of each of the optical modulation element groups from a predetermined modulation characteristic function and the target maximum luminance of the white.

66. An optical modulation device adjustment apparatus according to claim 58, wherein said light source includes first illumination means for illuminating, for each of the optical modulation element arrays, the single-color illumination lights simultaneously upon the optical modulation elements which form the optical modulation element array, and

second illumination means for illuminating, for each of said optical modulation devices, the single-color illumination lights upon the optical modulation elements which form the optical modulation element array, and

said correction means determines the modulation characteristics of the optical modulation elements which form the optical modulation element array and illumination profiles of said optical modulation element arrays separately from each other using said first and

second illumination means.

67. An optical modulation device adjustment apparatus according to claim 66, wherein, when said second illumination means illuminates the optical modulation elements of the optical modulation element arrays, said correction means produces a first test signal whose voltage value varies within a first variation range and applies the first test signal to said optical modulation devices through said driving circuit, and

said measurement means measures the intensities of the modulated lights emitted in response to the voltage value of the first test signal by any of said optical modulation devices illuminated by said second illumination means to determine the modulation characteristics of said optical modulation devices.

68. An optical modulation device adjustment apparatus according to claim 65, wherein, when said first illumination means illuminates the optical modulation elements which form the optical modulation element arrays, said correction means produces a second test signal whose voltage value varies within a second variation range and applies the second test signal to said optical modulation devices through said driving circuit.

69. An optical modulation device adjustment apparatus according to claim 68, wherein said measurement means measures the intensities of the modulated lights emitted from the optical modulation elements of the optical modulation element arrays illuminated by said first illumination means when the optical modulation elements of the optical modulation element arrays are deformed or displaced in response to the voltage value of the second test signal, and

said correction means determines illumination profiles of the optical modulation elements which form the optical modulation element arrays.

70. An optical modulation device adjustment apparatus according to claim 69, wherein said correction means determines target modulation characteristics for the optical modulation elements which form said optical modulation element arrays from the modulation characteristics of said optical modulation devices determined individually and the illumination profiles for the individual colors.

71. An optical modulation device adjustment apparatus according to claim 70, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color

light sources from the modulation characteristics of said optical modulation devices and the illumination profiles of the individual colors, and

determines a minimum value of white luminance distributions of the optical modulation element arrays as a target maximum luminance of the white to be realized by said optical modulation elements which form said optical modulation element arrays, and

determines the target modulation characteristics of said optical modulation devices from a predetermined modulation characteristic function and the target maximum luminance of the white.

72. An optical modulation device adjustment apparatus according to claim 70, wherein said correction means divides the optical modulation elements which form each of said optical modulation element arrays into a plurality of groups depending upon positions of said optical modulation elements, and

individually determines the target modulation characteristics of the optical modulation elements of the groups from the modulation characteristics of said optical modulation devices and the illumination profiles for the individual colors.

73. An optical modulation device adjustment

apparatus according to claim 72, wherein said correction means determines a luminance distribution of white which can be realized by said red, green and blue single-color light sources from the modulation characteristics of said optical modulation devices and the illumination profiles of the individual colors, and

determines a minimum value of the white luminance distributions of the optical modulation elements of the groups as a target maximum luminance of white to be realized by the optical modulation elements, and

determines the target modulation characteristics of the optical modulation elements of each of the optical modulation element groups from a predetermined modulation characteristic function and the target maximum luminance of the white.

74. An image display apparatus for successively displaying a plurality of frames in which a plurality of pixels are disposed in a matrix, comprising:

a plurality of pixel elements for individually forming the pixels;

a driving circuit for applying a driving signal to said pixel elements; and

driving signal supply means for allocating, when a predetermined object one of the pixels is to be displayed,

a quantization error appearing, when driving signal data is inputted to said driving circuit, in the driving signal of an object pixel element which corresponds to the object pixel to plural ones of said pixels in the proximity of the object pixel in a current frame being displayed and plural ones of the pixels within a predetermined range in a frame displayed next to the current frame, adding the allocated quantization error components to the driving signal data for the plural ones of said pixel elements and inputting the resulting driving signal data to said driving circuit.

75. An image display apparatus according to claim 74, wherein said driving signal supply means includes:

data division means for dividing driving signal data having a bit width of m into a high order bit part having a bit number of n smaller than m and a low order bit part having another bit number of m-n;

first addition means for adding the low order bit part and a preceding error allocated in the immediately preceding error allocation process and outputting a sum total of the errors;

error rounding process means having a predetermined threshold value for comparing the sum total of the errors outputted from said first addition means with the

threshold value and outputting first data or second data from a result of the comparison;

second addition means for adding the high order bit part and the first data or the second data outputted from said error rounding process means to produce driving signal data having a bit width of n and inputting the driving signal data to said driving circuit;

subtraction means for subtracting the first data or the second data outputted from said error rounding process means from the sum total of the errors outputted from said first addition means and outputting the difference as a current error; and

error allocation means for multiplying the current error outputted from said subtraction means by predetermined weighting coefficients, allocating the weighted errors to the plural ones of said pixels in the proximity of the object pixel in the current frame and the plural ones of the pixels within the predetermined range in the frame displayed next to the current frame and inputting the allocated current error to said first addition means.

76. An image display apparatus for successively displaying a plurality of frames each including a two-dimensional image, comprising:

a light source;

a plurality of optical modulation devices each including a plurality of fixed electrodes and a plurality of displaceable electrodes positioned adjacent said fixed electrodes and individually displaced or deformed in response to a driving signal applied thereto to form offsets from said fixed electrodes so that illumination light from said light source incoming to one of faces of said fixed and displaceable electrodes is modulated in accordance with the offsets such that the modulated lights from said optical modulation devices are arrayed linearly to form a one-dimensional image formed from a string of pixels;

a driving circuit for applying the driving signals to the electrodes of said optical modulation devices;

image display means for being illuminated with the modulated lights to form the two-dimensional image in which strings of the pixels are developed;

first driving signal supply means for outputting driving signal data for said optical modulation devices; and

second driving signal supply means for allocating, when a predetermined object one of the pixels is to be displayed, a quantization error appearing, when the

driving signal data is inputted to said driving circuit, in the driving signal for said optical modulation devices to plural ones of said pixels in the proximity of the object pixel in a current frame being displayed and plural ones of the pixels within a predetermined range in a frame displayed next to the current frame, adding the allocated quantization error components to the driving signal data for the plural ones of said pixel elements and inputting the resulting driving signal data to said driving circuit.

77. An image display apparatus according to claim 76, wherein said second driving signal supply means includes:

data division means for dividing driving signal data having a bit width of m into a high order bit part having a bit number of n smaller than m and a low order bit part having another bit number of m-n;

first addition means for adding the low order bit part and a preceding error allocated in the immediately preceding error allocation process and outputting a sum total of the errors;

error rounding process means having a predetermined threshold value for comparing the sum total of the errors outputted from said first addition means with the

threshold value and outputting first data or second data from a result of the comparison;

second addition means for adding the high order bit part and the first data or the second data outputted from said error rounding process means to produce driving signal data having a bit width of n and inputting the driving signal data to said driving circuit;

subtraction means for subtracting the first data or the second data outputted from said error rounding process means from the sum total of the errors outputted from said first addition means and outputting the difference as a current error; and

error allocation means for multiplying the current error outputted from said subtraction means by predetermined weighting coefficients, allocating the weighted errors to the plural ones of said pixels in the proximity of the object pixel in the current frame and the plural ones of the pixels within the predetermined range in the frame displayed next to the current frame and inputting the allocated current error to said first addition means.